



Faculty of Computer Science and Information Technology

## **PERTEKMA FINANCIAL REPORTING TOOLS**

TEE LEE MAY

Bachelor of Computer Science with Honors

(Software Engineering)

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# **PERTEKMA FINANCIAL REPORTING TOOLS**

**TEE LEE MAY**

This project is submitted in partial fulfillment of the  
requirements for the degree of Bachelor of Computer  
Science with Honors

Faculty of Computer Science and information Technology  
UNIVERSITI MALAYSIA SARAWAK 2020

# **SISTEM PELAPORAN KEWANGAN PERTEKMA**

**TEE LEE MAY**

Projek ini merupakan salah satu keperluan untuk  
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**(TEE LEE MAY)**

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## ABSTRACT

*A financial reporting tool is essential for an association to manage the cash flow, as well as keeping track of the spending and earnings on various activities. The presence of an online financial reporter would bring benefits by providing a systematic and consistent way of managing the finance of an association. It helps in providing simplicity and reduces human error in recording financial-related information as the information is important to an association. Currently, PERTEKMA (Persatuan Teknologi Maklumat) still uses multiple spreadsheets to log the financial records. PERTEKMA authorities have to depend on the physical ledges to keep track of its accounts' activities. Therefore, there is lack of a dedicated system to keep track of the association's expense and revenue. The aims of this project are to develop a web-based system that keeps track of the PERTEKMA association's expense and revenue as well as preventing inconsistencies between different ledges maintained by different parties such as activity ledges and kiosk ledges. Also, the web-based system was proposed which can generate the detailed financial reports periodically such as monthly revenue report. This project developed a financial reporting tool for PERTEKMA which will only focus on activity spending and kiosk ledgers only. The proposed system can only run the calculation after user's input, as well as it cannot carry out prediction for the future income of the association. The methodology used to develop the proposed project was Rapid Application Development (RAD) model. The proposed system was developed, and design based on the collected requirements and suggestion collected from PERTEKMA authorities. A dedicated website was developed after the implementation for PERTEKMA authorities to carry out their work. The testing carried out showed that users were satisfied with the presence of the system as it provides consistency in recording financial information. According to the feedback, a mobile application would be better to further improve the portability of the system. In conclusion, the proposed system will be able to manage financial record through an online platform which enables PERTEKMA authorities to keep track the association's financial anywhere and anytime.*

## ABSTRAK

Sistem pengurusan kewangan adalah penting untuk menguruskan aliran tunai, serta menjejaki perbelanjaan dan pendapatan untuk pelbagai acara. Kehadiran pelapor kewangan dalam talian akan membawa faedah dengan memberikan cara yang sistematik dan konsisten dalam menguruskan kewangan persatuan. Ini membantu dalam memberikan kesederhanaan dan mengurangkan kesilapan manusia dalam merekod maklumat berkaitan kewangan kerana maklumat itu penting bagi sebuah persatuan. Pada masa ini, PERTEKMA (Persatuan Teknologi Maklumat) masih menggunakan beberapa hamparan untuk mencatat rekod kewangan. Pihak berkuasa PERTEKMA harus bergantung pada petunjuk fizikal untuk memantau aktiviti akaunnya. Oleh itu, terdapat kekurangan sistem khusus untuk mengawasi perbelanjaan dan pendapatan persatuan. Matlamat projek ini adalah untuk membangunkan sistem berasaskan web yang mengawasi perbelanjaan dan pendapatan persatuan PERTEKMA serta menghalang ketidakkonsistenan antara bumbung yang berbeza yang dikendalikan oleh pihak yang berlainan seperti lejar aktiviti dan lejar kiosk. Di samping itu, sistem berasaskan web telah dicadangkan yang dapat menghasilkan laporan kewangan terperinci secara berkala seperti laporan pendapatan bulanan. Projek ini membangunkan alat pelaporan kewangan untuk PERTEKMA yang hanya akan menumpukan pada perbelanjaan aktiviti dan lejar kiosk sahaja. Sistem yang dicadangkan hanya dapat menjalankan perhitungan setelah input pengguna, dan juga tidak dapat menjalankan ramalan untuk pendapatan persatuan yang akan datang. Metodologi yang digunakan untuk membangunkan projek yang dicadangkan adalah model Rapid Application Development (RAD). Sistem yang dicadangkan dibangun, dan dirancang berdasarkan keperluan dan cadangan yang dikumpulkan dari pihak berkuasa PERTEKMA. Laman web khusus dibangun setelah pelaksanaannya agar pihak berkuasa PERTEKMA menjalankan tugas mereka. Pengujian yang dijalankan menunjukkan bahawa pengguna berpuas hati dengan kehadiran sistem ini kerana memberikan konsistensi dalam mencatat maklumat kewangan. Menurut maklum balas, aplikasi mudah alih akan lebih baik untuk meningkatkan lagi kemudahan sistem. Kesimpulannya, sistem yang dicadangkan akan dapat menguruskan rekod kewangan melalui platform dalam talian yang membolehkan pihak berkuasa PERTEKMA mengawasi kewangan persatuan bila-bila masa di mana sahaja.



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## **CHAPTER 1: INTRODUCTION**

### **1.1 Background**

PERTEKMA (Persatuan Teknologi Maklumat) is an association that established and registered under Centre of Students Development UNIMAS on 1<sup>st</sup> November 1997. According to PERTEKMA, every student of FCSIT (Faculty of Computer Science and Information Technology) will automatically become a member of PERTEKMA since their first year of study. The objective of PERTEKMA is to build an intermediate platform for proactive and effective interaction and communication between the faculty and its students (“PERTEKMA History”, 2015).

To run an association that covers the Faculty of Computer Science and Information Technology, PERTEKMA have several sources of incomes to keep the association runs smoothly. The main income of PERTEKMA is from the food kiosk. The food kiosk earn money by providing various options of food and beverages for FCSIT community on the weekdays. There will be excos from PERTEKMA to take care of the kiosk by handling products from suppliers, collecting money from students, as well as preparing financial report for the kiosk revenue. Other than that, PERTEKMA has its own main events that brings stable income to the association. Events such as FCSIT Annual Dinner, Annual Dinner, Hari Bersama PERTEKMA will generate income for PERTEKMA to continue to run more events.

This project proposes to create a financial reporting tool for PERTEKMA. The financial reporting tool will be presented in the form of a website, accessible by authorized PERTEKMA personnel. The website aims to provide a centralized platform for PERTEKMA authorities to manage financial resources. It allows users to carry out different tasks including finding discrepancy between ledgers and balancing the ledgers, according to their respective rights.

Users will utilize the website as the association's financial management platform, recording spending and revenue for every single money-related event around the faculty.

## **1.2 Problem Statement**

A financial management system is essential for an association to manage the cash flows, as well as keeping track of the budget and spending on various events. A good financial management system reduces the hassle of the authority to spend time to check on the accurateness of the data and simplify the process of recording financial information.

However, there exists a problem where there is lack of a dedicated system to keep track of the association's spending, as every event has their respective spreadsheets to log the financial record. In the spreadsheets, the way that data is being input into the file is inconsistent. There are a lot of duplicated attributes which can be categorized in to one, hence this is one of the downsides of recording financial flow manually. Moreover, it is a huge hassle for PERTEKMA authorities to view or check on the financial flow of the other events which they are not in charged with due to the inconsistency of data in the spreadsheets.

In addition to this, there is no way of checking the consistency of ledgers as the ledgers are managed by different individuals separately as the activity and kiosk ledges are separated. Besides that, there exists a lack of an automated reporting tool to generate the revenue trend or profit. Moreover, PERTEKMA authorities are having difficulties as they are unable to compare different ledgers and highlight problems found in the ledger caused by external errors. Hence, there is a demand of an automated generation of profit and revenue trends by PERTEKMA authorities.

In response to this problem, this project proposes to create a financial reporting tools for PERTEKMA to manage the resources in a centralized platform. This simplifies the process

of logging financial records and easier for other to check on resource management on the other projects.

### **1.3 Aims and Objectives**

The aim of this project is to develop a website which can manage the PERTEKMA association's financial. The objectives are:

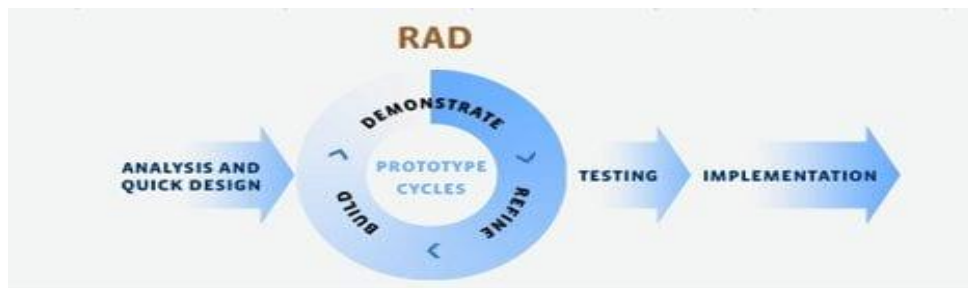
- To gather requirement and design a financial reporting tool for PERTEKMA.
- To develop a system that keeps track of the PERTEKMA association's spending and revenue as well as preventing inconsistencies between ledges maintained by difference parties such as activity ledges and kiosk ledges.
- To generate detailed financial reports periodically.

### **1.4 Scope**

This project will develop a financial reporting tool for PERTEKMA which will only focus on activity spending and kiosk ledgers only. The financial reporting tool will be developed into a website. The initiative of the project is to provide a centralized platform for PERTEKMA authorities to manage the revenue the faculty's kiosk. The proposed system can only run the calculation after user's input, as well as it cannot carry out prediction for the future income of the association. The assumption of the project would be everyone's rights is clear and know what they oversee, so that they can utilize the website easily. This website will only develop for PERTEKMA authorities and can only be accessed by authorized personnel.

## 1.5 Methodology

The software methodology that will be used throughout this project is Rapid Application Development (RAD). As this is a single person project, RAD is suitable as the project can be broken down into small parts and it is easier to keep track of what is going on. Furthermore, RAD is chosen as it allows direct feedback from PERTEKMA advisor and PERTEKMA treasurer. Hence, changes in requirements can be handled as soon as possible when RAD methodology is being used in this project. The following figures show the main phases in Rapid Application Development.



*Figure 1.1: Main Phases in Rapid Application Development (What is Rapid Application Development (RAD), 2019)*

### 1.5.1 Analysis and Quick Design

In this phase, initial requirements from PERTEKMA advisor and PERTEKMA treasurer will be gathered and recorded for reference during the development. Detailed information will be gathered from each PERTEKMA advisor and PERTEKMA treasurer through interview and Q&A session. Furthermore, prototyping will be carried out to gather feedback and suggestion from PERTEKMA advisor and PERTEKMA treasurer. The design of database such as user database and revenue database as well as the flow of the website such as manage revenue, manage expenses and generate report will be visualized.

### **1.5.2 Build**

The technical aspect of the website development will be started at this phase. The main features will be break down into smaller parts to ease the development process. Errors and bugs encountered will be recorded and present to PERTEKMA advisor and PERTEKMA treasurer to discuss the solutions. The demonstration of features built will involve PERTEKMA advisor and PERTEKMA treasurer from time to time.

### **1.5.3 Demonstrate**

The completed part will be demonstrated to the PERTEKMA advisor and PERTEKMA treasurer to gather feedback and comments. Any change in requirements will be recorded and analyse for future references.

### **1.5.4 Refine**

After demonstration and gathering feedback from PERTEKMA advisor and PERTEKMA treasurer, the website will be refined to fix bugs, refining the features' functions and adding additional features that is requested by the PERTEKMA advisor and PERTEKMA treasurer. A prototype will be built if additional features are requested and Phase 2 will be repeated until all requirements are met.

### **1.5.5 Testing**

After refining the website and all requirements are finalized, the website will be available for testing. During this phase, PERTEKMA advisor and PERTEKMA treasurer will test all the website's functionality. Any problem and bugs will be recorded, and opinions will be voiced out for the final refinement.

### **1.5.6 Implementation**

The final product will be implemented inside the faculty, and handover to PERTEKMA authorities. Documentation such as user manual will be provided upon deliverance of the project.

### **1.6 Significance of Project**

Upon successful implementation of the project, the PERTEKMA financial reporting tool will be the main platform for PERTEKMA authorities to manage their financial and keep track the association spending and earning. The financial reporting tool will solve the inconsistency of ledgers management by providing a centralized platform for PERTEKMA authorities to manage the financial. PERTEKMA advisor and exco would have to log in to the system website to record of view and check the spending and earning of an event. For kiosk management, the earnings can be managed more easily as every detail are recorded in the system consistently.

For PERTEKMA excos, the system website will benefit them by allowing them to check and update the financial of the association anywhere and anytime if they are connected to the internet. It can reduce their effort to record everything in an excel sheet, by providing a centralized platform that offers consistency in recording spending and earnings. This prevents wasting on time and allow students to be more focus on their studies.

For PERTEKMA advisor, the system website offers convenience for them by providing the functions for them to manage the overall financial flow. Also, personnel with authorized rights can immediately update and comment on the system website since they able to compare different information that record by different student and seem highlight problems in the system. Moreover, the system website provides an automated generation of profit and revenue trends for easily understand the financial flow of the association. For reporting purposes, the system